

## COMPOSITIONS AND METHODS FOR DETERMINING CANINE GENDER

### ABSTRACT OF THE DISCLOSURE

The present invention provides methods to determine gender of a canine subject, that include contacting a nucleic acid sample from the canine subject with at least one probe or primer specific for canine amelogenin, and using the binding of the at least one probe or primer to detect a difference between the canine amelogenin gene on the Y chromosome and the canine amelogenin gene on the X chromosome, thereby determining gender of the canine subject. In certain aspects, gender of the canine subject is determined by contacting the nucleic acid sample with a primer pair that generate different sized amplification products depending on whether an X chromosome or a Y chromosome copy of the canine amelogenin gene is amplified. In certain aspects and embodiments disclosed herein, in addition to detecting binding of at least one probe or primer to a canine amelogenin gene, methods of the present invention include detecting binding of at least one probe or primer to a canine microsatellite locus, thus providing a genotyping and gender determination assay.